



Coastal Protection and
Restoration Authority of Louisiana

Status of SW La. Coastal Restoration Projects

Patrick J. Landry
CPRA Project Management
Division

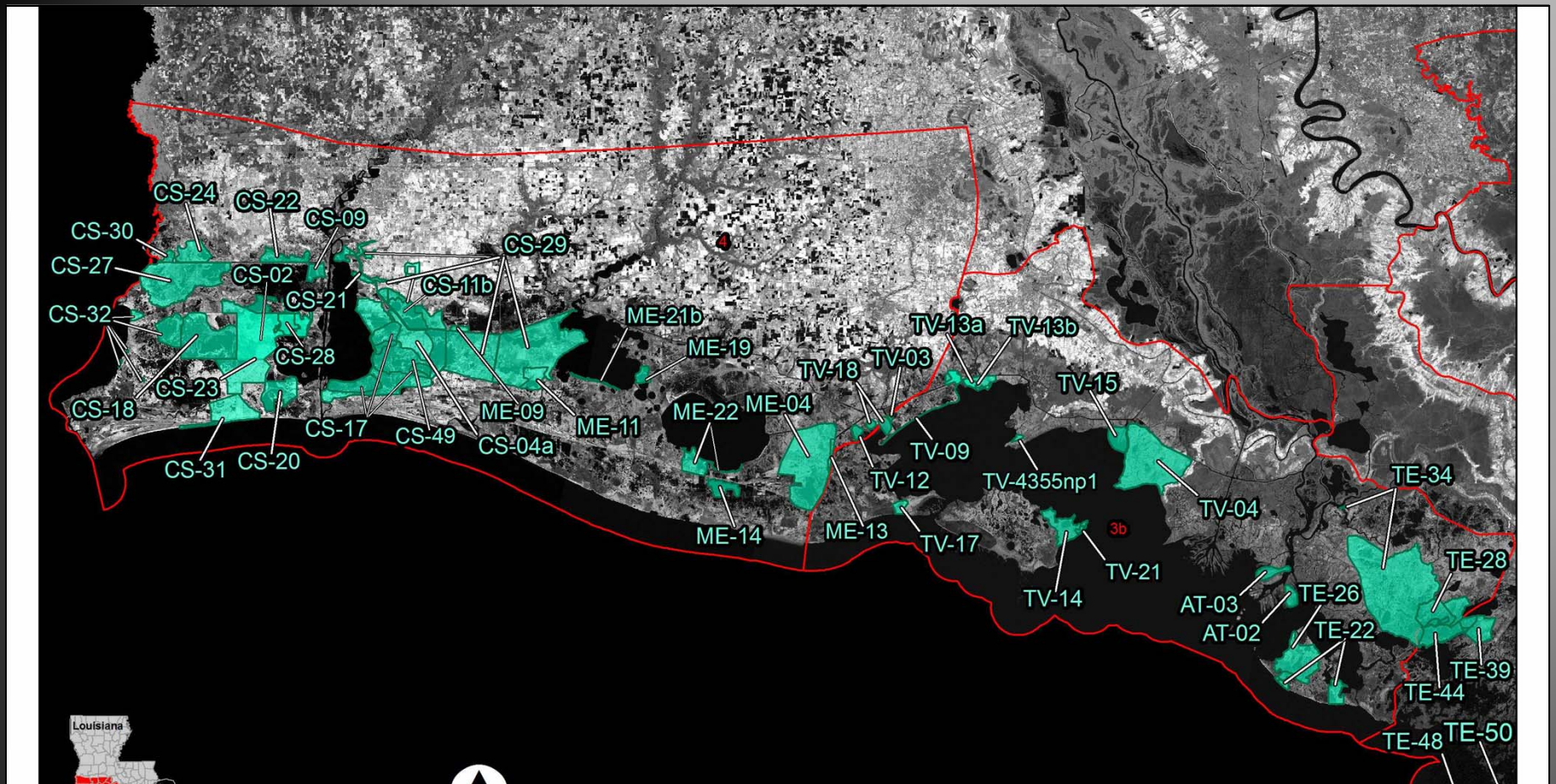
September 21, 2011



OUTLINE

- I. Recently Constructed Projects
- II. Projects in Construction
- III. Projects in Design/Planning

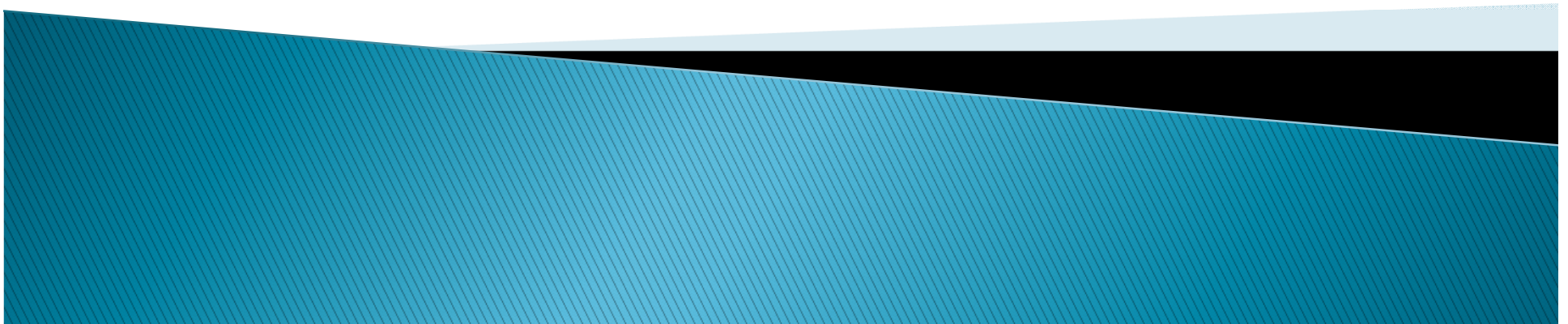




Constructed or Proposed Projects in SW LA >>>

Recently Constructed Projects

1. Cameron Creole Maintenance Levee
2. East Marsh Island Marsh Creation
3. Beneficial Use of Marsh Creation
4. Rockefeller Refuge Shoreline Protection
5. Grand Lake Shoreline Protection
6. South White Lake Shoreline Protection





Cameron Creole Maintenance Levee >>

Facts & Figures

- Reconstruction of 14.2 miles of levee on eastern rim of Calcasieu Lake
- Levee constructed to an elevation of 7.5 NAVD 88 w/ 5' top width and 3:1 side slopes
- 804,000 cubic yards of select fill hauled in
- Work commenced on June 25, 2010
- Final inspection completed on Sept. 8, 2011
- Total construction cost \$15.3 million
- Funded with state surplus funds
- Anticipate full FEMA reimbursement





Cameron Creole levee construction





Cameron Creole levee construction





Cameron Creole levee construction





Cameron Creole vegetated levee



An aerial photograph of a large-scale marsh creation project. The image shows a complex network of water channels and newly reclaimed land. The water is a deep blue, while the marshland is a mix of brown and green, indicating different stages of vegetation growth. The project is situated in a coastal area, with the ocean visible in the background.

East Marsh Island Marsh Creation (TV-21)

Total Project Budget	\$22.3 million
Acres Benefited	1159
Construction Completion Date	November 2010
Funding Program	CWPPRA



East Marsh Island before construction





East Marsh Island after construction





East Marsh Island Marsh Creation Borrow Area



East Marsh Island Marsh Creation (TV-21)

Approximately \$5 million in unobligated project funds were used to create and nourish over 800 acres of additional marsh than originally planned.





Marsh Creation Via Beneficial Use - Marcantel

Total Project Budget

\$19.7 million
(\$1.3M Calcasieu)

Acres Benefited


330

Construction Completion Date

November 2010

Funding Program

CIAP(\$3.7M),
Surplus(\$14.1M)

An aerial photograph of a coastal area. In the foreground, there is a body of water with a long, narrow, light-colored rocky or sandy barrier extending from the shore. To the right of this barrier, there are several small, circular, reddish-brown structures in the water. The background shows a flat, green landscape, likely a marsh or wetland, meeting the water at a distant shoreline.

Rockefeller Refuge Shoreline Protection Demonstration

Total Project Budget (CIAP)	\$6.0 million
Linear Feet	1,700
Construction Completion Date	January 2010
Funding Program	CIAP

Rockefeller Refuge Shoreline Protection Demonstration

One of the most rapidly eroding portions of the Louisiana Gulf shoreline is at Rockefeller Refuge. Estimates of long-term shoreline retreat range from 30 to 40 feet/year.



Grand Lake Shoreline Protection



Total Project Budget (CIAP)	\$10.6 million
Linear Feet	37,800
Construction Completion Date	February 2010
Funding Program	CIAP



South White Lake Shoreline Protection

Total Construction Cost: \$9.66 million

Completed: August 2006

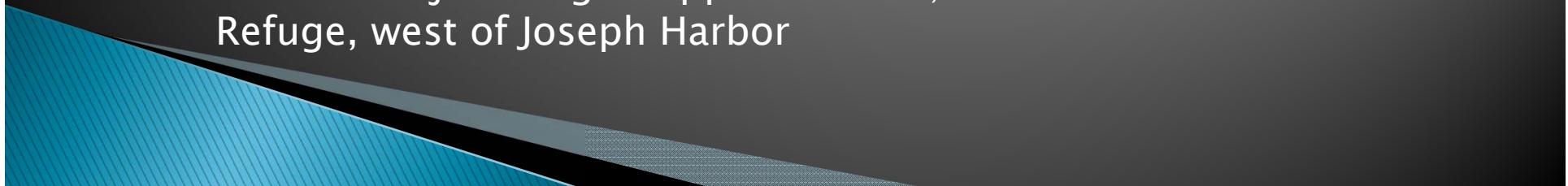
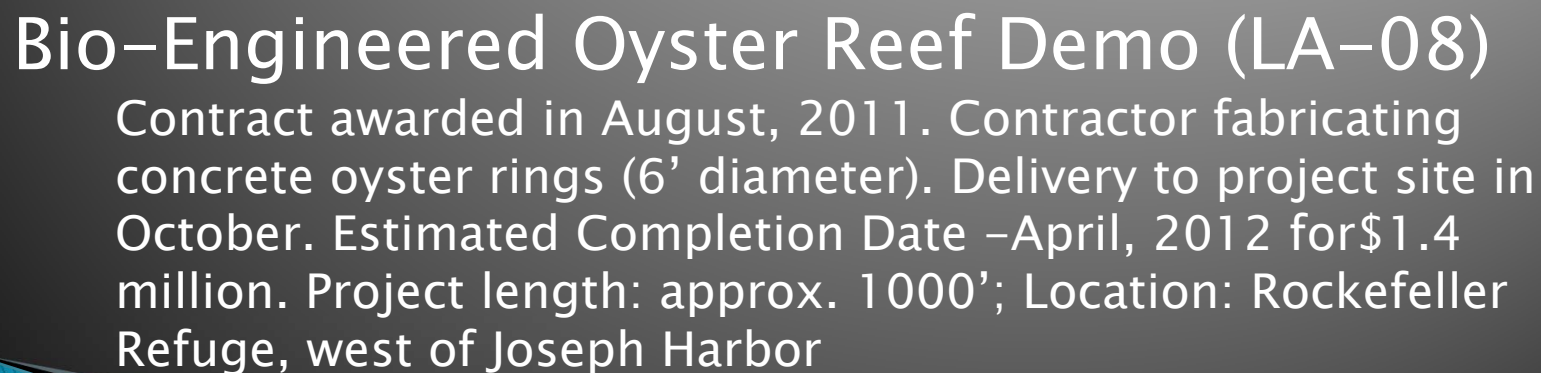
Total length of rock dike: 11.9 miles





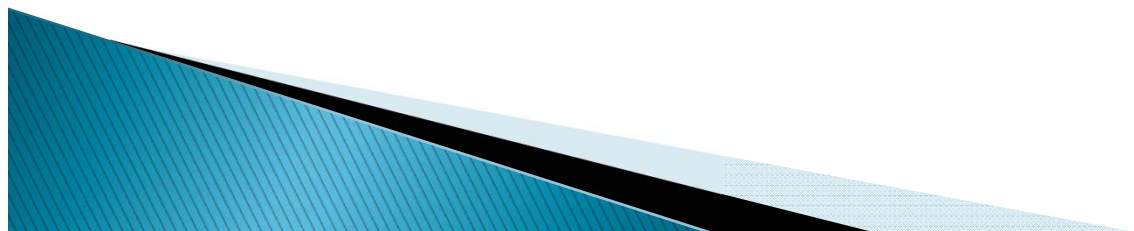
Projects in Construction





Cote Blanche Hydrologic Restoration (TV-04)

- **Project Location:** West Cote Blanche Bay in St. Mary Parish
- **Description:** Maintenance Project to recap recap School Bus Bayou rock dike
- **Length:** 3,300 ln. ft. of 250 lb class rock
- **Start date:** September 9, 2011
- **Anticipated end date:** November 9, 2011
- **Total Construction Cost:** \$718,600
- **Funding:** CWPPRA O&M funds





Sand Fencing west of Holly Beach

Construction began September 9th to replace 46,000 linear feet of sand fencing destroyed during Hurricane Ike. Project will be complete in November, 2011 for a total cost of \$293,000. Planting of vegetation (28,000 plants) along the fence, included in project.



Projects in Design/Planning



Cameron Parish Shoreline (CS-33)



PROJECT FEATURES

- 8.7 Miles of Beach/Dune Nourishment
 - Beach: Elevation +5.0 ft. NAVD 88
 - Dune: Elevation +8.0 ft. NAVD 88
- Budget: \$45.8 million, funded solely by State
- Minimum of 3 million cu. ft. of beach quality sand to be delivered from borrow site located 20+ miles offshore



PROJECT OBJECTIVE



Figure 3. Reach 2 shoreline along Highway 82 to the east of Holly Beach, looking westward.



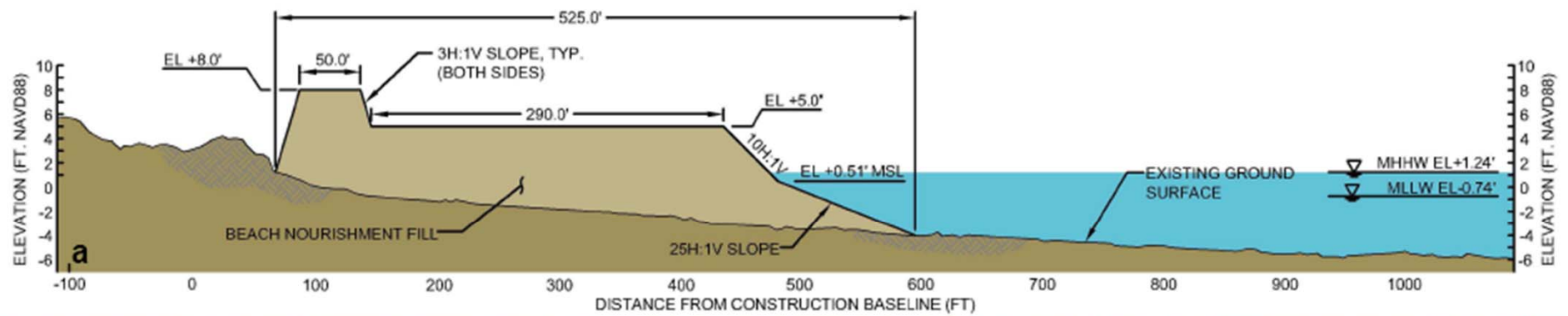
Figure 4. Reach 2 shoreline, east of Holly Beach looking eastward.



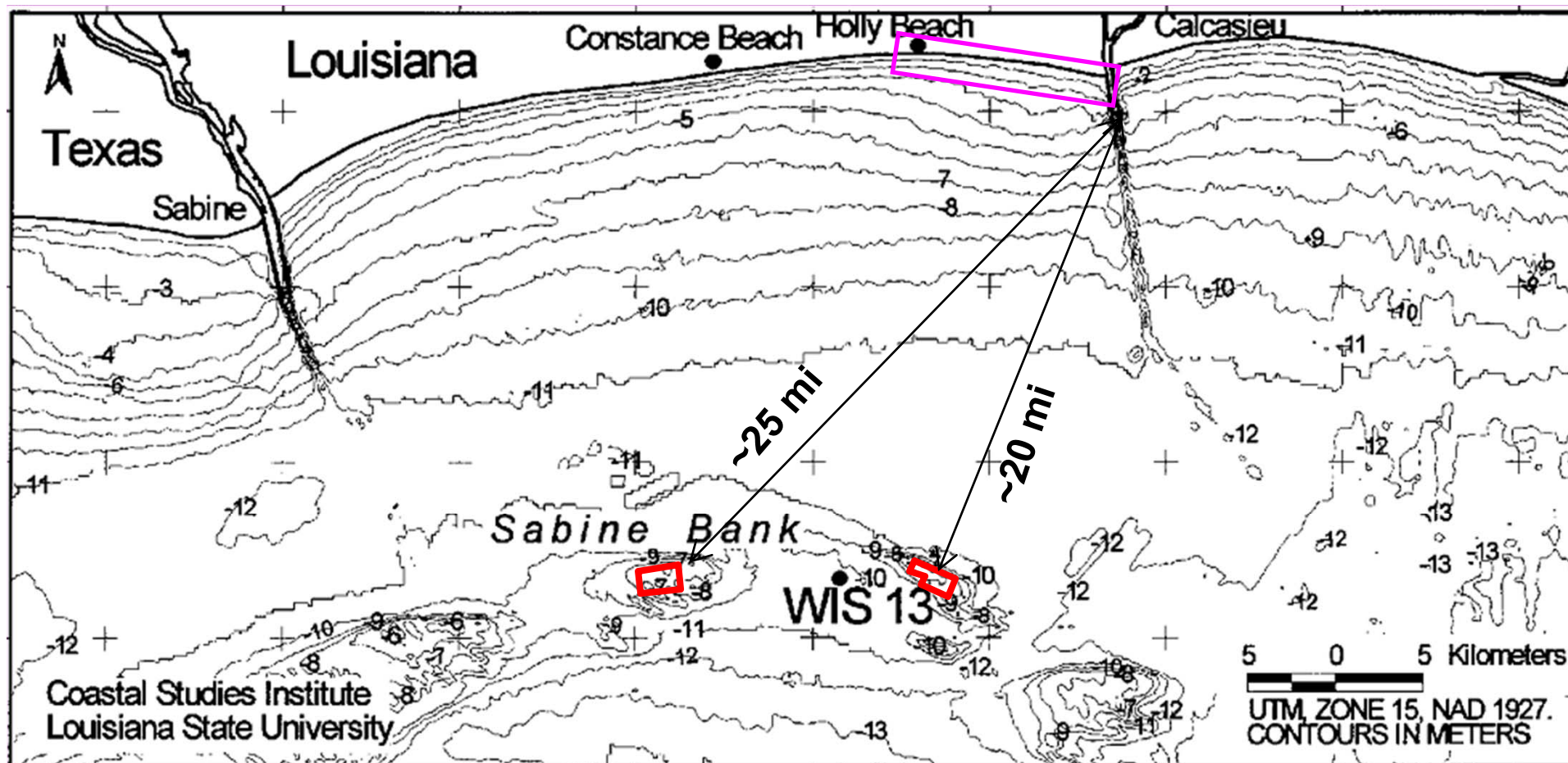
Existing Cameron Beach in project area



TYPICAL BEACH/DUNE SECTION

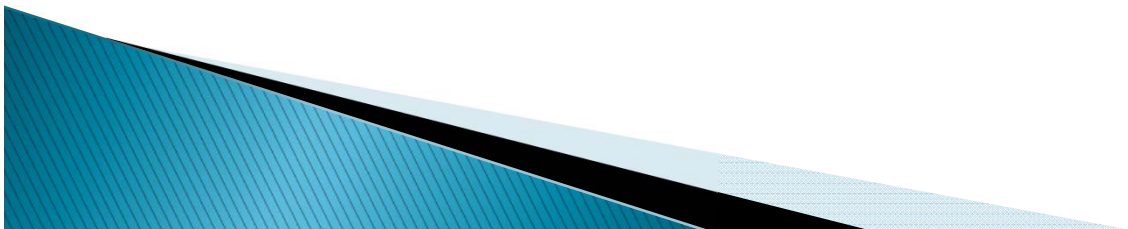


OFFSHORE SAND SOURCES



ENGINEERING AND DESIGN SCHEDULE

- 70% Design: August 2011
- 95% Design: November 2011
- Permits: January 2012
- 100% Design: January 2012
- Bid/Construction: Pending Landrights Completion



SEDIMENT DELIVERY METHODS



Calcasieu Pass Pumpout method



Calcasieu Pass Rehandling Method



FRESHWATER BAYOU BANK STABILIZATION/MARSH CREATION

95% Design Review: January 2011

Funding Approval: January 2011

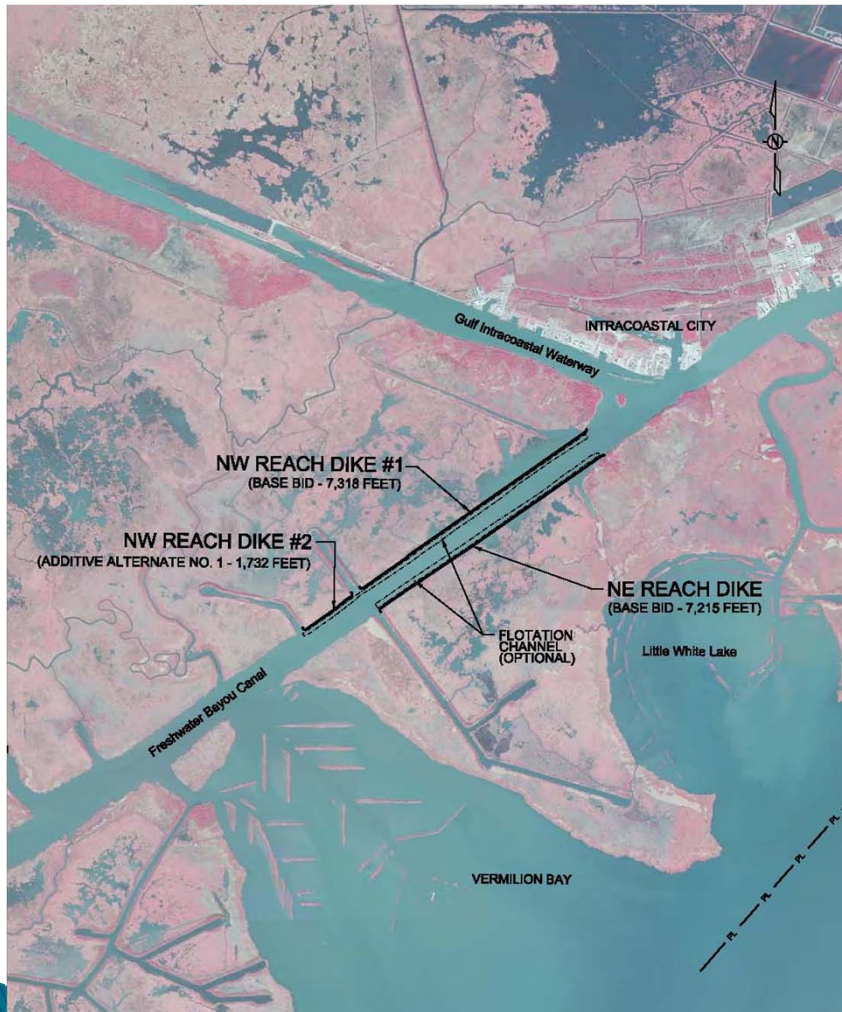
Permits Received: July 2011

Bid Package Ready: December 2011



FRESHWATER BAYOU BANK STABILIZATION/MARSH CREATION

PROJECT LAYOUT – BANK STABILIZATION



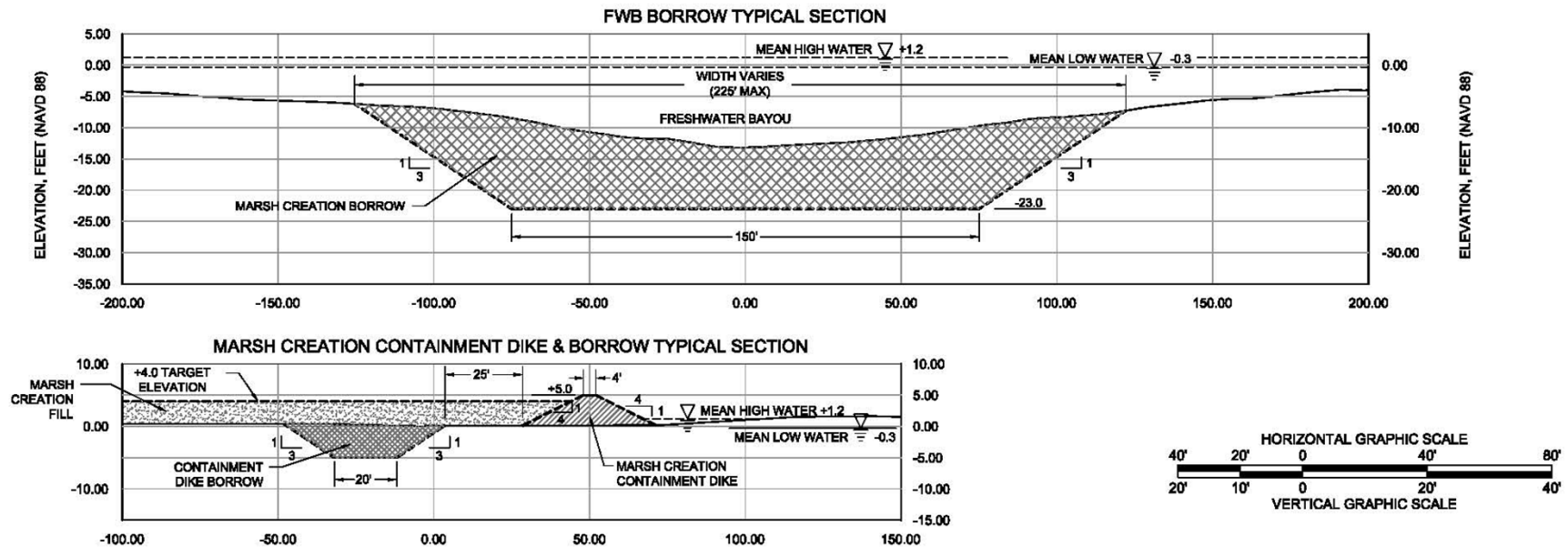
The map illustrates the Marsh Creation Project area, including the following features and labels:

- AMES-2 EL=0.68**: Soil boring location.
- AMES-3 EL=1.10**: Soil boring location.
- AMES-1 EL=1.20**: Soil boring location.
- MARSH CREATION AREA (ADDITIVE ALTERNATE NO. 3 - 46 ACRES)**: Area defined by the SW REACH DIKE.
- MARSH CREATION CONTAINMENT DIKE**: Dike line separating the marsh creation area from the borrow area.
- SW REACH DIKE**: Dike line separating the marsh creation area from the borrow area.
- FRESHWATER BAYOU CANAL**: Canal running horizontally across the map.
- SPOIL AND MARSH CREATION FILL**: Area between the Freshwater Bayou Canal and the Marsh Creation Borrow Area.
- MARSH CREATION BORROW AREA**: Area at the bottom of the map.
- MARSH CREATION AREA (BASE BID - 50 ACRES)**: Area defined by the Marsh Creation Containment Dike.
- TRUNKLINE GAS**: Gas line running diagonally across the map.
- HUMBLE CANAL**: Canal running vertically on the right side of the map.
- 12" EL PASO GAS PIPELINE** and **36" EL PASO GAS PIPELINE**: Gas lines at the bottom right.
- PL SIGN TRUNKLINE GAS**: Survey point near the Trunkline Gas line.
- BH#6, BH#11, BH#12, BH#13, BH#14, BH#15**: Survey points marked with dots.
- LEGEND**:
 - SOIL BORING (Symbol: Sun-like icon)
 - AVERAGE MARSH ELEVATION SURVEY (Symbol: Dashed line)
 - SURVEY TRANSECT (Symbol: Solid line)
 - ROCK DIKE (Symbol: Dashed line with cross-hatching)
 - MARSH CREATION CONTAINMENT DIKE (Symbol: Dashed line with dots)
 - BASELINE (Symbol: Solid line)
- Scale**: 1000' 500' 0' 1000' 2000'

FRESHWATER BAYOU

BANK STABILIZATION/MARSH CREATION

TYPICAL SECTIONS



FRESHWATER BAYOU BANK STABILIZATION/MARSH CREATION

DESIGN PARAMETERS

Marsh Creation

- Dredge Volume: 562,000 CY (923,000 CY)
- Max Slurry Elevation: +4.0 ft. NAVD 88
- Min Slurry Elevation: +3.5 ft. NAVD 88

Freshwater Bayou Borrow Area

- Capacity: 1.1 MCY (based on 2008 surveys)
- Excavation Limit: -23.0 ft. NAVD 88
- Maximum Pump Distance: ~ 2 miles

Bank Stabilization

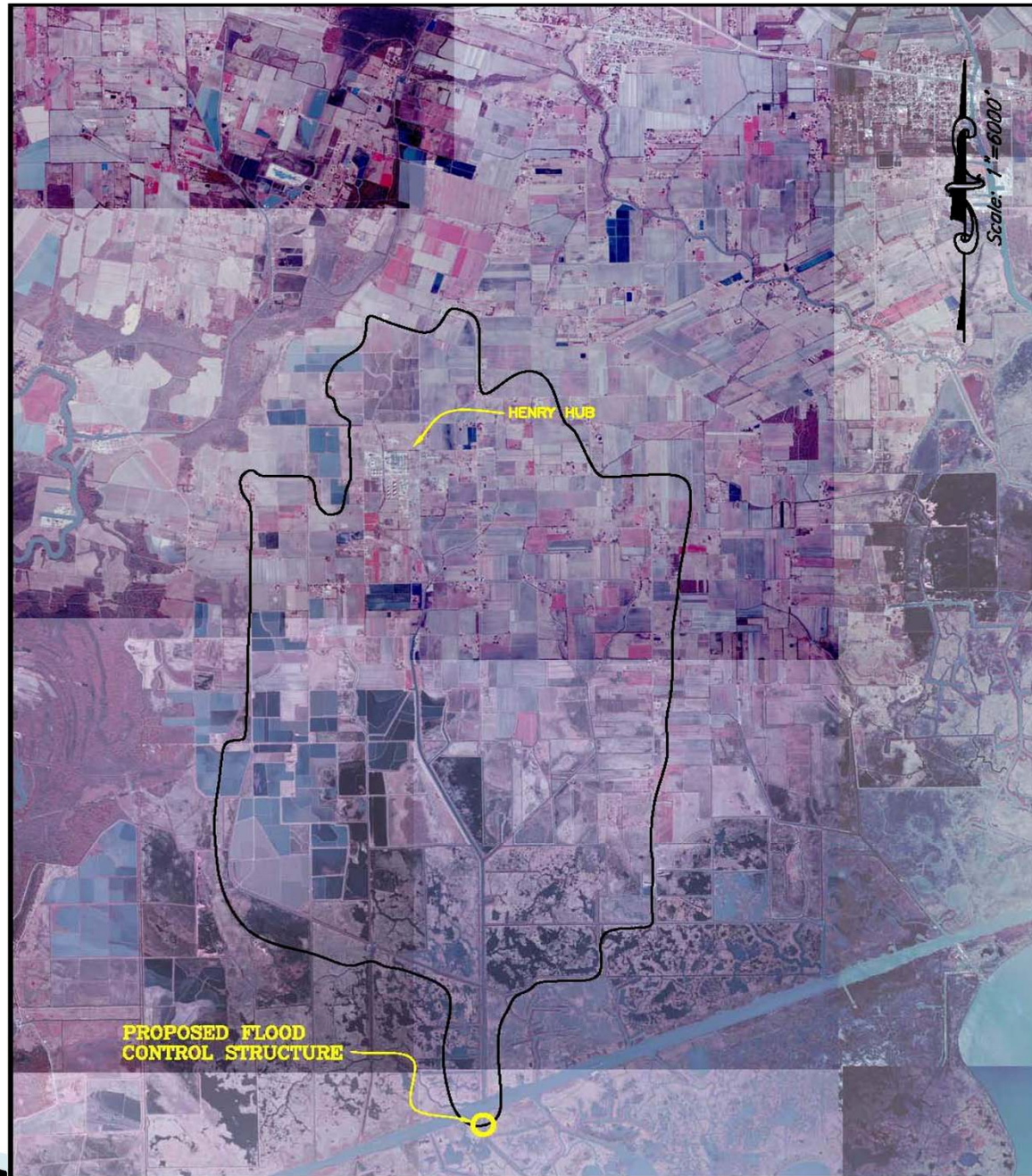
- Fill Quantity: 174,000 TONS (278,000 TONS)
- Maximum Elevation: +4.0 ft. NAVD 88
- Minimum Elevation: +3.0 ft. NAVD 88


- Available Construction Funds : \$ 12.8 million (rock) (CIAP & Parish CSA)
\$ 3.6 million (marsh creation) (Surplus)

Flood Control Structure at Boston Canal

- ▶ **Purpose:** To reduce flooding in lower Vermilion Parish, including the Henry Hub, from tidal surges in Vermilion Bay
- ▶ **Project Description:** Construct double sheet pile wall across the Boston Canal. The central 100' will have a swing barge structure that will remain open for flow and vessel traffic but can be closed during impending flooding.
- ▶ **Proposed Cost:** \$5.8 million (CDBG Funding)
- ▶ **Status:** State initializing modeling effort to finalize location. Awaiting contract approval.





DRAWN BY CHECKED BY DATE SCALE PROJECT NO.	T. VINCENT S. DINGUS 3/24/2009 1" = 6000' 7050-01	 Sellers & Associates, Inc. ENGINEERS 3400-B Bay Street, Lake Charles, LA 70601 807 588-0777	PROPOSED LOCATION OF BOSTON CANAL FLOOD PROTECTION STRUCTURE AERIAL VIEW	CLIENT PROJECT LOCATION	VFPJ HURRICANE COASTAL PROTECTION VERMILION PARISH, LOUISIANA	SHEET 2
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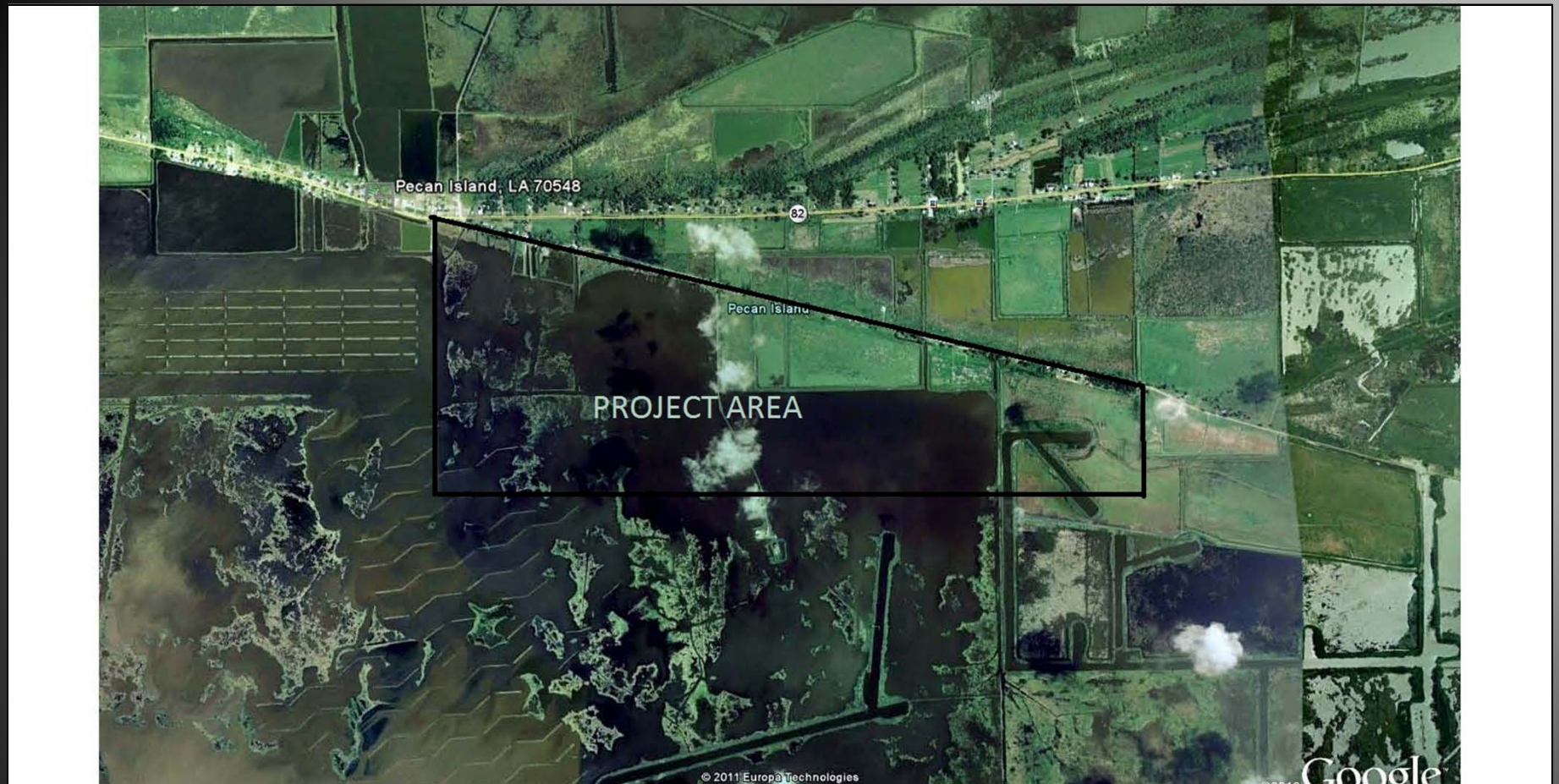




Front Ridge Chenier Terracing Project (TV-60)

- **Project Cost:** \$2 million dollars
- **Proposed Construction :** 85,000 ft of terraces
- **Funding Source:** CDBG funds
- **Location:** SE of Pecan Island near Front Ridge
- **Project Status:** CPRA Engineering staff are working on the geotech and survey scope and starting design this week.





Front Ridge Chenier Terracing Project (TV-60) >>

FW Bayou Marsh Creation (ME-31)

- **Description:** Marsh creation west of FW Bayou & north of Humble Canal. Will create 400 acres of marsh.
- **Approved funds:** \$2.4 m; **Total cost:** \$25.5 m
- **Status:** Waiting on drawings from NRCS design staff to finalize Scope of Services for surveying (dredge corridor & borrow areas)
- Interior surveys by NRCS are 80% complete
- Meetings with landowners will begin in Oct.
- Cultural resource consultations have started. No impacts are expected.



SW La Gulf Shoreline Nourishment and Protection (ME-24)

- **Description:** 5 million yds of sediment deposited along 9 miles of shoreline between Dewitt Canal and Constance Lake in Cameron and Vermilion Parishes
- **Total estimated cost:** \$36.9 million
- **Status:** Project is on hold until the CPRA and the COE develop a Cost Share Agreement. COE is currently reviewing latest CSA draft.



St. Mary Levee (Franklin Canal) (TV-52)

- **Purpose:** To provide flood protection to large residential area north of Hwy 90 bridge
- **Project Features:** 800' of earthen levee to be placed along Yokley Bayou with a steel swing barge flood gate to be placed in Franklin Canal
- **Status:** CUP and USACE Permits received and engineering plans are 100% complete
- **Estimated Cost:** \$5 million (CDBG Funding)



Bayou Sale Shoreline Protection (TV-20)

- ▶ **Project Location:** Eastern shoreline of East Cote Blanche Bay in St. Mary Parish
- ▶ **Original design concept:** Construction of 6.8 miles of foreshore rock dike.
- ▶ **Status:** Due to extensive pipelines in the area, NRCS is investigating using Wave Attenuating Devices (WAD's), and other conventional and unconventional techniques. NRCS will present preliminary findings to CPRA by December.



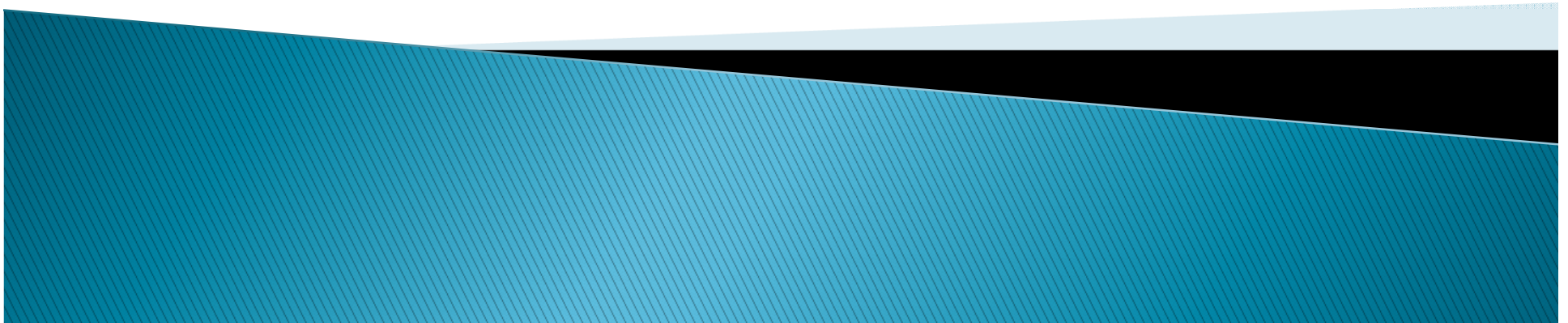
South Grand Chenier HR Project (ME-20)

- ▶ **Status:** Plans are 100 % complete.
- ▶ Working thru landrights agreements with landowners.
- ▶ **Project Location:** South of Grand Chenier, between La. Hwy 85 and Hog Bayou
- ▶ **Project Description:** Create 400 acres of emergent marsh in two 200 acre cells with sediment from the Gulf of Mexico.



Weeks Bay Marsh Creation & Shoreline Protection (TV-19)

The Weeks Bay Alternative Analysis Report findings were presented at the CWPPRA Technical Committee Report Meeting Tuesday, September 20th in Baton Rouge along with recommendations.



Questions?

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